

PANCE Infectious Disease Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

- 1. Which statement correctly describes seasonal influenza vaccination recommendations?**
 - A. Not recommended during pregnancy.**
 - B. Must be given intranasally.**
 - C. Recommended for 6 months and older; high-dose for 65 and older.**
 - D. Only recommended for children under 2.**
- 2. Which statement is most accurate about non-albicans Candida species?**
 - A. They are always susceptible to fluconazole**
 - B. They do not cause mucosal infections**
 - C. They are rarely encountered in clinical practice**
 - D. They are more likely to be resistant to fluconazole**
- 3. Which antifungal is active against mucorales?**
 - A. Fluconazole**
 - B. Liposomal amphotericin B**
 - C. Voriconazole**
 - D. Itraconazole**
- 4. For Lyme disease in patients older than 8 years, the preferred initial therapy is:**
 - A. Ceftriaxone**
 - B. Doxycycline**
 - C. Amoxicillin**
 - D. Cefuroxime**
- 5. Osteomyelitis is most commonly described as which of the following statements?**
 - A. Hematogenous seeding usually affects the metaphysis of long bones, especially in children**
 - B. Contiguous spread is the most common route in children**
 - C. The condition is most often caused by Pseudomonas in all adults**
 - D. Blood cultures are never helpful in diagnosis**

- 6. Vancomycin should be added to empiric neutropenic fever regimens if which condition is present?**
- A. Fungal infection suspected**
 - B. No risk factors**
 - C. Line infection or MRSA risk**
 - D. Only after culture results**
- 7. Early sign at the bite site in rabies is which symptom?**
- A. Itching only**
 - B. Paresthesias**
 - C. Bleeding**
 - D. Bruising**
- 8. In neonatal meningitis, initial empiric therapy commonly includes which regimen?**
- A. Ampicillin plus gentamicin**
 - B. Cefotaxime alone**
 - C. Vancomycin plus aztreonam**
 - D. Piperacillin-tazobactam alone**
- 9. What is the recommended initial IV fluid bolus in the sepsis protocol for hypotension or lactate ≥ 4 mmol/L?**
- A. 30 mL/kg**
 - B. 10 mL/kg**
 - C. 50 mL/kg**
 - D. 5 mL/kg**
- 10. In mucormycosis management, which adjunct procedure is essential?**
- A. Steroid administration**
 - B. Surgical debridement**
 - C. Radiation therapy**
 - D. Immunoglobulin therapy**

Answers

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1. C
2. D
3. B
4. B
5. A
6. C
7. B
8. A
9. A
10. B

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Explanations

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1. Which statement correctly describes seasonal influenza vaccination recommendations?

- A. Not recommended during pregnancy.**
- B. Must be given intranasally.**
- C. Recommended for 6 months and older; high-dose for 65 and older.**
- D. Only recommended for children under 2.**

Annual influenza vaccination is recommended for everyone aged 6 months and older who can receive it, with a higher-dose vaccine preferred for adults 65 years and older to improve protection in that group. That's why saying it's recommended for 6 months and older and that a high-dose option is available for those 65 and older is the best summary. Vaccination during pregnancy is recommended as well, using the inactivated injectable vaccine, and the intranasal option is not routinely used for many adults or during pregnancy. It's not limited to children under 2; older children and adults should be vaccinated too.

2. Which statement is most accurate about non-albicans *Candida* species?

- A. They are always susceptible to fluconazole**
- B. They do not cause mucosal infections**
- C. They are rarely encountered in clinical practice**
- D. They are more likely to be resistant to fluconazole**

Non-albicans *Candida* species are more likely to have reduced susceptibility or resistance to fluconazole than *Candida albicans*, which is the key idea. Fluconazole works well against many *C. albicans* infections, but several non-albicans species common in clinical practice—most notably *Candida glabrata*—often show higher minimum inhibitory concentrations and may be resistant, especially in invasive infections. One species, *Candida krusei*, is intrinsically resistant to fluconazole, underscoring that resistance patterns vary by species and are not uniform across all *Candida*. This is why the statement that non-albicans are more likely to be resistant to fluconazole is the best choice. It reflects the practical impact: when you're dealing with a *Candida* infection that might be non-albicans, susceptibility testing or choosing an agent with broader activity (like an echinocandin) becomes important, particularly for serious infections or in patients with prior azole exposure. The other options are inconsistent with real-world patterns: non-albicans can cause mucosal infections; they are not rare in practice; and they are not always susceptible to fluconazole.

3. Which antifungal is active against mucorales?

- A. Fluconazole
- B. Liposomal amphotericin B**
- C. Voriconazole
- D. Itraconazole

Mucormycosis is caused by Mucorales, fungi that invade blood vessels and cause rapid, invasive disease. The antifungal with reliable activity against these organisms is amphotericin B, and the liposomal formulation is preferred because it allows higher dosing with less kidney toxicity, which is crucial for treating extensive invasion. Among common antifungals, fluconazole, voriconazole, and itraconazole have poor activity against Mucorales, so they're not effective choices for this infection. Liposomal amphotericin B remains the best option for mucormycosis, often used with surgical debridement for best outcomes.

4. For Lyme disease in patients older than 8 years, the preferred initial therapy is:

- A. Ceftriaxone
- B. Doxycycline**
- C. Amoxicillin
- D. Cefuroxime

Doxycycline given by mouth is the best first-line treatment for Lyme disease in patients older than eight years because it treats *Borrelia burgdorferi* effectively, is easy to administer as an outpatient, and is well tolerated. A typical course is about 10 days for erythema migrans, with longer durations (often 14-21 days) used for other early manifestations. Doxycycline also has the practical advantage of covering possible tick-borne co-infections like *Anaplasma*. Amoxicillin and cefuroxime are acceptable alternatives if doxycycline cannot be used (for example, during pregnancy or in younger children), but they are not the preferred option in someone over eight. Ceftriaxone is reserved for more severe disease, such as neurologic involvement or late disseminated Lyme, because it requires IV administration.

5. Osteomyelitis is most commonly described as which of the following statements?

- A. Hematogenous seeding usually affects the metaphysis of long bones, especially in children**
- B. Contiguous spread is the most common route in children
- C. The condition is most often caused by *Pseudomonas* in all adults
- D. Blood cultures are never helpful in diagnosis

Osteomyelitis in children most often arises from bacteria spreading through the bloodstream and seeding the bone, with infection typically locating in the metaphysis of long bones. The metaphysis is richly vascularized but has slow and turbulent blood flow, with tight capillary loops that trap bacteria during transient bacteremia. This vascular pattern makes hematogenous seeding the most common route in kids, and the metaphyseal region becomes the usual target. Contiguous spread from a nearby soft-tissue infection or trauma is more characteristic of adults, where local infection or vascular compromise drives bone involvement rather than hematogenous seeding. *Pseudomonas* is not the most common cause in adults overall; *Staphylococcus aureus* remains the leading pathogen in osteomyelitis, with *Pseudomonas* associated more with specific contexts like puncture wounds or certain environmental exposures. Blood cultures are not “never helpful”—they can identify the offending organism in many cases of acute hematogenous osteomyelitis and guide targeted therapy, though they aren’t always positive.

6. Vancomycin should be added to empiric neutropenic fever regimens if which condition is present?

- A. Fungal infection suspected
- B. No risk factors
- C. Line infection or MRSA risk**
- D. Only after culture results

MRSA coverage is added to empiric regimens for febrile neutropenia when there is line infection or MRSA risk. In neutropenic patients, initial therapy targets Gram-negatives, including *Pseudomonas*, but MRSA can cause serious catheter- or skin-related infections, so vancomycin is added if a line infection is suspected or the patient has known MRSA risk. Starting vancomycin early helps address potential MRSA bacteremia while cultures are pending, since delays can worsen outcomes. If there are no risk factors for MRSA or line infection, vancomycin is not routinely used because it increases toxicity and resistance and can be stopped if cultures do not show MRSA. If a fungal infection is suspected, antifungal therapy—not vancomycin—would be pursued.

7. Early sign at the bite site in rabies is which symptom?

- A. Itching only
- B. Paresthesias**
- C. Bleeding
- D. Bruising

Rabies early signs reflect local nerve irritation as the virus travels from the bite site toward the nervous system. The most characteristic early symptom is paresthesias—abnormal tingling, burning, or prickling sensations around the wound. This reflects involvement of peripheral nerves at the bite site. Itching can occur, but paresthesias specifically points to the nerve irritation rabies causes. Bleeding or bruising are not due to the viral infection itself, but to the initial trauma.

8. In neonatal meningitis, initial empiric therapy commonly includes which regimen?

- A. Ampicillin plus gentamicin**
- B. Cefotaxime alone
- C. Vancomycin plus aztreonam
- D. Piperacillin-tazobactam alone

The main idea is to rapidly cover the pathogens most likely to cause meningitis in newborns: Group B Streptococcus, *Listeria monocytogenes*, and gram-negative enteric organisms such as *E. coli*. Ampicillin targets *Listeria* and Group B Streptococcus, while adding gentamicin provides broad gram-negative coverage, including *E. coli*. In the setting of meningitis, inflamed meninges allow better drug penetration into the CSF, so this combination is a practical, widely used initial empiric regimen while cultures are pending. Other regimens either miss *Listeria* coverage (for example, cefotaxime alone) or focus on organisms not typical in neonatal meningitis, and thus don't offer the balanced, targeted coverage needed at presentation.

9. What is the recommended initial IV fluid bolus in the sepsis protocol for hypotension or lactate ≥ 4 mmol/L?

- A. 30 mL/kg**
- B. 10 mL/kg
- C. 50 mL/kg
- D. 5 mL/kg

When sepsis presents with hypotension or a lactate level of 4 mmol/L or higher, the priority is rapid fluid resuscitation to restore intravascular volume and improve tissue perfusion. The initial bolus should be 30 mL/kg of isotonic crystalloid, given promptly (typically within the first 3 hours). This amount is chosen because it appreciably expands preload and supports perfusion without assuming a fixed blood pressure target, while still allowing room to reassess and adjust therapy. Smaller volumes, like 5 or 10 mL/kg, are usually inadequate to reverse hypoperfusion, whereas a large single bolus such as 50 mL/kg can raise the risk of fluid overload in susceptible patients. After delivering 30 mL/kg, closely monitor hemodynamics and perfusion markers—blood pressure, urine output, mental status, skin perfusion, and lactate clearance—to decide if additional fluids or other interventions (like vasopressors) are needed.

10. In mucormycosis management, which adjunct procedure is essential?

A. Steroid administration

B. Surgical debridement

C. Radiation therapy

D. Immunoglobulin therapy

In mucormycosis, the fungus aggressively invades blood vessels and causes rapid tissue necrosis. Because dead tissue harbors fungus and impedes antifungal penetration, removing it through surgical debridement is essential alongside medical therapy. This debridement reduces fungal burden and improves delivery of antifungal drugs like amphotericin B, which is crucial for control of the infection. Often, multiple or extensive debridements are required, and stabilization of underlying conditions (such as correcting acidosis or hyperglycemia) is also important. Steroids can worsen fungal infection, and radiation therapy or intravenous immunoglobulin do not play a role as essential adjuncts in treatment.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://panceinfectiousdisease.examzify.com>

We wish you the very best on your exam journey. You've got this!